

=> d his full

(FILE 'HOME' ENTERED AT 15:36:19 ON 24 JUN 2005)

FILE 'HCAPLUS' ENTERED AT 15:36:33 ON 24 JUN 2005

L1 1 SEA ABB=ON PLU=ON (US20040087785 OR US6812358 OR US2003000433
3)/PN OR US2001-296999#/AP,PRN

FILE 'REGISTRY' ENTERED AT 15:38:13 ON 24 JUN 2005

FILE 'HCAPLUS' ENTERED AT 15:38:16 ON 24 JUN 2005

L2 TRA L1 1- RN : 29 TERMS

FILE 'REGISTRY' ENTERED AT 15:38:16 ON 24 JUN 2005

L3 29 SEA ABB=ON PLU=ON L2

FILE 'WPIX' ENTERED AT 15:38:19 ON 24 JUN 2005

L4 1 SEA ABB=ON PLU=ON (US20040087785 OR US6812358 OR US2003000433
3)/PN OR US2001-296999#/AP,PRN

=> b hcap

FILE 'HCAPLUS' ENTERED AT 15:38:40 ON 24 JUN 2005

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FILE COVERS 1907 - 24 Jun 2005 VOL 143 ISS 1

FILE LAST UPDATED: 23 Jun 2005 (20050623/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all l1 tot

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:964483 HCAPLUS

DN 138:24878

ED Entered STN: 20 Dec 2002

TI Process for preparing estra-4,9(10)-diene-3,17-dione steroids from
19-nor-androst-4-ene-3-one steroids

IN Van Rheenen, Verlan H.; Hessler, Edward J.

PA Bridge Organics Co., USA

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N

CC 32-3 (Steroids)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002101014	A2	20021219	WO 2002-US18305	20020607 <--
	WO 2002101014	A3	20040325		

Search done by Noble Jarrell

WO 2002101014 B1 20040506

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

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US 6812358 B2 20041102

US 2004087785 A1 20040506 US 2003-695122 20031028 <--

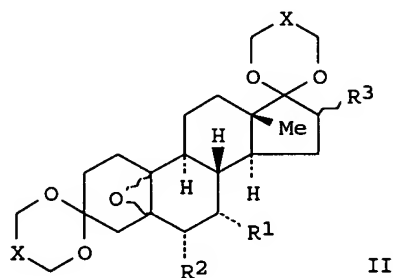
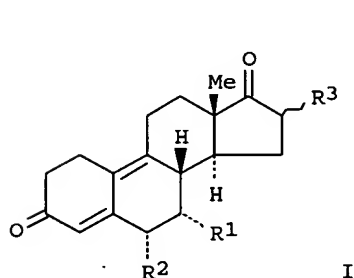
PRAI US 2001-296999P P 20010608 <--

US 2002-163727 A 20020606

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 2002101014	ICM	C12N	
WO 2002101014	ECLA	C07J001/00C2; C07J071/00B1	<--
US 2003004333	NCL	552/623.000; 540/543.000	
	ECLA	C07J001/00C2; C07J071/00B1	<--
US 2004087785	NCL	540/008.000; 540/076.000	
	ECLA	C07J001/00C2; C07J071/00B1	<--
OS CASREACT 138:24878; MARPAT 138:24878			

GI



AB The present invention discloses a novel process for preparing estra-4,9(10)-diene-3,17-dione derivs. such as I [R1 = Me, H, CO2Me; R2 = Me, F, H; R3 = Me, OH, F, H], from readily available 19-nor-androst-4-ene-3-one derivs. such as II [X = bond, C(Me)2, CH2], by a three-step process. Thus, epoxidn. of 7 α -methyl-estra-5(10)-ene-3,17-dione-3,17-bis-ethylene glycol ketal afforded 7 α -methyl-estra-5(10)-oxido-3,17-dione-3,17-bis-ethylene glycol ketal which upon treatment with hydrochloric acid provided 10-hydroxy-7 α -methyl-estra-4-ene-3,17-dione (III) and 5,10-dihydroxy-7 α -methyl-estra-4-ene-3,17-dione (IV). III and IV were reacted with concentrated sulfuric acid to afford estra-4,9(10)-diene-3,17-dione I [R1 = Me; R2, R3 = H]. Products of this process are important intermediates in the preparation of biol. active substances.

ST estradienedione steroid prepn norandrosteneone epoxidn; oxidoestradiene dihydroxyestraenedione hydroxyestraenedione prepn

IT Ketals

RL: RCT (Reactant); RACT (Reactant or reagent)

(estra-5(10)-ene-3,17-dione-3,17-bis-ketal derivative; in preparation of estra-4,9(10)-diene steroid derivs.)

IT Acids, reactions

RL: RGT (Reagent); RACT (Reactant or reagent)

(inorg.; in preparation of estra-4,9(10)-diene steroids from 10-hydroxy-estra-4-ene-3,17-dione and 5,10-dihydroxy-estra-4-ene-3,17-

dione steroids)
IT Epoxidation
(of estra-5(10)-ene-3,17-dione-3,17-bis-glycol ketal in preparation of
estra-5(10)-oxido-3,17-dione-3,17-bis-glycol ketal)
IT Estrogens
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(preparation of estra-4,9(10)-diene steroids from 19-nor-androst-4-ene-3-one
steroids)
IT 19-Norsteroids
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of estra-4,9(10)-diene steroids from 19-nor-androst-4-ene-3-one
steroids)
IT 13209-45-5P, Estra-4,6-diene-3,17-dione 478156-84-2P 478156-85-3P
478156-86-4P 478156-87-5P 478156-88-6P 478156-89-7P 478156-91-1P ,
478156-93-3P 478156-94-4P 478156-96-6P 478242-79-4P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic
preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of estra-4,9(10)-diene steroids from 19-nor-androst-4-ene-3-one
steroids)
IT 5173-46-6P, Estra-4,9-diene-3,17-dione 24130-12-9P 30164-84-2P
478156-90-0P 478156-92-2P 478156-97-7P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(preparation of estra-4,9(10)-diene steroids from 19-nor-androst-4-ene-3-one
steroids)
IT 734-32-7, 19-Nor-androst-4-ene-3,17-dione 2220-74-8 2503-06-2,
Estra-5(10),9(11)-diene-3,17-dione 17000-78-1 33585-96-5 139444-50-1
478156-95-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of estra-4,9(10)-diene steroids from 19-nor-androst-4-ene-3-one
steroids)
IT 79-21-0, Peracetic acid 937-14-4, m-Chloroperbenzoic acid 7664-38-2,
Phosphoric acid, reactions 7664-93-9, Sulfuric acid, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of estra-4,9(10)-diene steroids from 19-nor-androst-4-ene-3-one
steroids)

=> b reg

FILE 'REGISTRY' ENTERED AT 15:38:47 ON 24 JUN 2005
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 23 JUN 2005 HIGHEST RN 852898-09-0
DICTIONARY FILE UPDATES: 23 JUN 2005 HIGHEST RN 852898-09-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Search done by Noble Jarrell

Crossover limits have been increased. See HELP CROSSOVER for details.

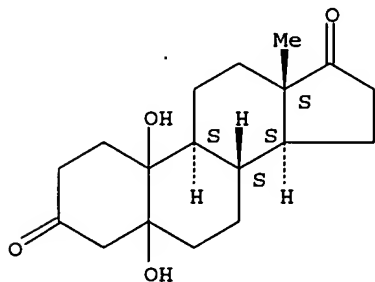
Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d ide l3 tot

L3 ANSWER 1 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478242-79-4 REGISTRY
ED Entered STN: 07 Jan 2003
CN Estrane-3,17-dione, 5,10-dihydroxy-, (10 ξ)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C18 H26 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

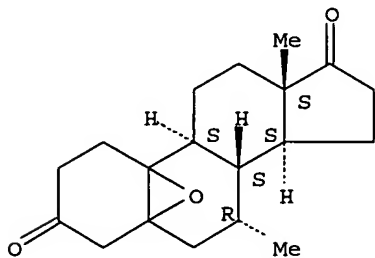


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 2 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-97-7 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estrane-3,17-dione, 5,10-epoxy-7-methyl-, (7 α ,10 ξ)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C19 H26 O3
SR CA
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

Absolute stereochemistry.

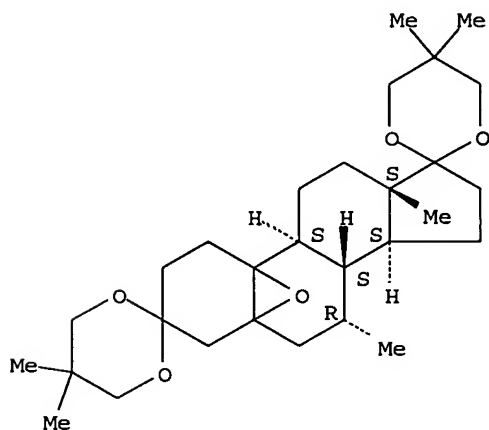


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L3 ANSWER 3 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-96-6 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estrane-3,17-dione, 5,10-epoxy-7-methyl-, cyclic bis(2,2-dimethyl-1,3-propanediyl acetal), (7 α ,10 ξ)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C29 H46 O5
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

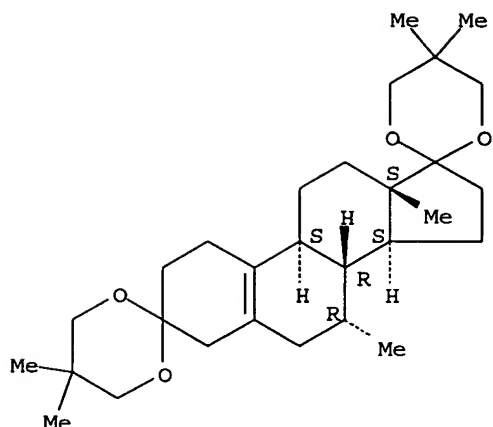


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 4 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-95-5 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estr-5(10)-ene-3,17-dione, 7-methyl-, cyclic bis(2,2-dimethyl-1,3-propanediyl acetal), (7 α)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C29 H46 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

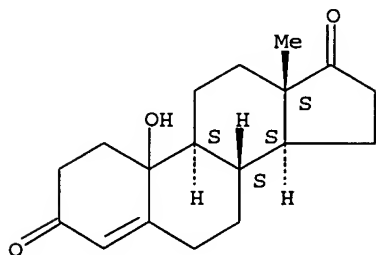


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 5 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-94-4 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estr-4-ene-3,17-dione, 10-hydroxy-, (10ξ)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C18 H24 O3
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

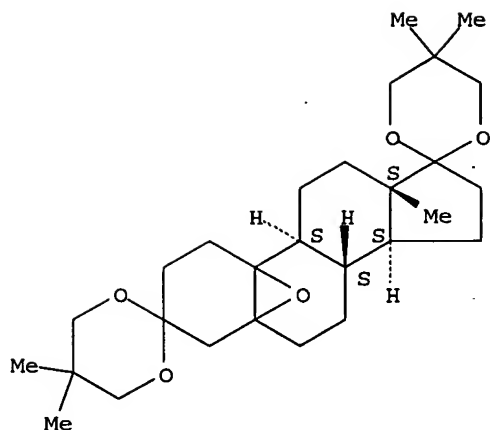


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 6 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-93-3 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estrane-3,17-dione, 5,10-epoxy-, cyclic bis(2,2-dimethyl-1,3-propanediyl acetal), (10ξ)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H44 O5
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

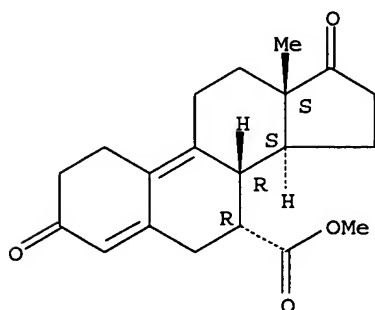


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L3 ANSWER 7 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-92-2 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estra-4,9-diene-7-carboxylic acid, 3,17-dioxo-, methyl ester, (7α)-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C20 H24 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.



***PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

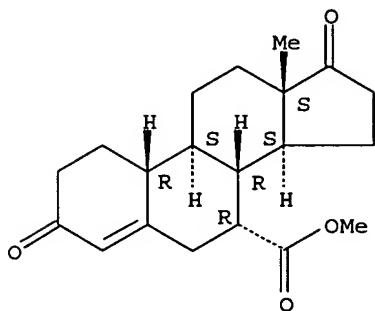
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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 8 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-91-1 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estra-4-ene-7-carboxylic acid, 3,17-dioxo-, methyl ester, (7α)- (9CI)
(CA INDEX NAME)
FS STEREOSEARCH
MF C20 H26 O4
SR CA

Search done by Noble Jarrell

LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

Absolute stereochemistry.

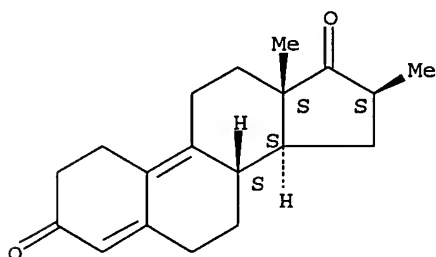


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 9 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-90-0 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estra-4,9-diene-3,17-dione, 16-methyl-, (16β)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C19 H24 O2
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LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

Absolute stereochemistry.

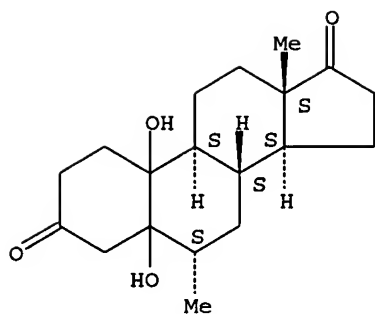


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 10 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-89-7 REGISTRY
ED Entered STN: 06 Jan 2003
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(CA INDEX NAME)
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LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

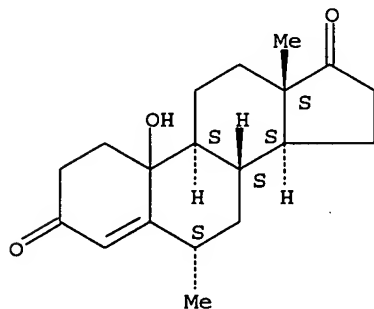


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 11 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-88-6 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estr-4-ene-3,17-dione, 10-hydroxy-6-methyl-, (6 α ,10 ξ)- (9CI) (CA
INDEX NAME)
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LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

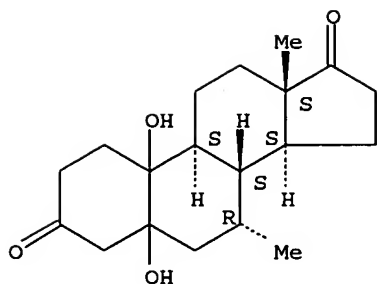


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 12 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-87-5 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estrane-3,17-dione, 5,10-dihydroxy-7-methyl-, (7 α ,10 ξ)- (9CI)
(CA INDEX NAME)
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SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

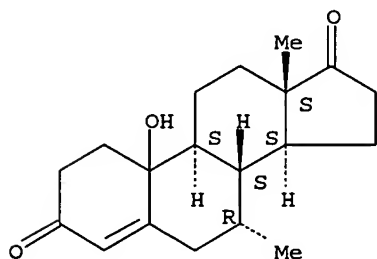


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 13 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-86-4 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estr-4-ene-3,17-dione, 10-hydroxy-7-methyl-, (7 α ,10 ξ)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
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SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

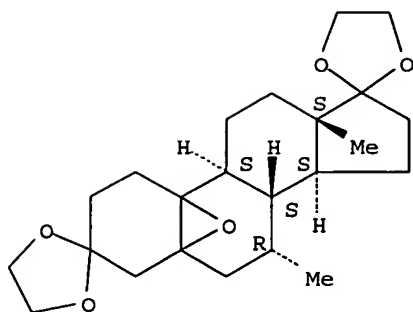


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 14 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-85-3 REGISTRY
ED Entered STN: 06 Jan 2003
CN Estrane-3,17-dione, 5,10-epoxy-7-methyl-, cyclic bis(1,2-ethanediyl acetal), (7 α ,10 ξ)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
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SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

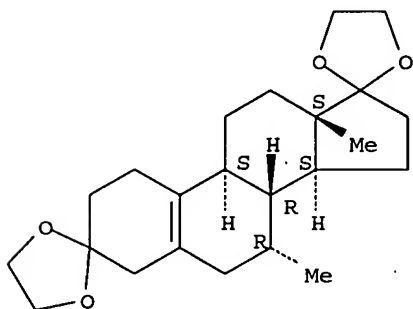


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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 15 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 478156-84-2 REGISTRY
ED Entered STN: 06 Jan 2003
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(7α)-(9CI) (CA INDEX NAME)
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LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

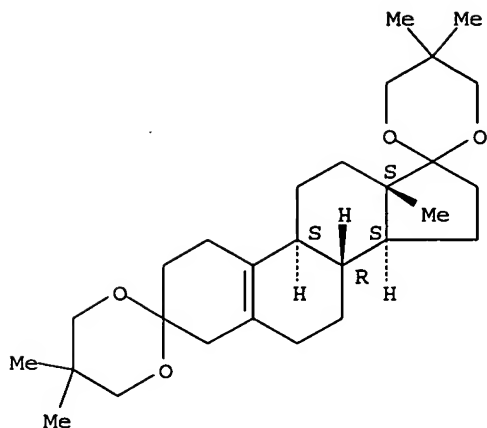


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 16 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 139444-50-1 REGISTRY
ED Entered STN: 06 Mar 1992
CN Estr-5(10)-ene-3,17-dione, cyclic bis(2,2-dimethyl-1,3-propanediyl acetal)
(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Dispiro[1,3-dioxane-2,3']-[3H]cyclopenta[a]phenanthrene-17'(2'H),2''-[1,3]dioxane], estr-5(10)-ene-3,17-dione deriv.
FS STEREOSEARCH
MF C28 H44 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

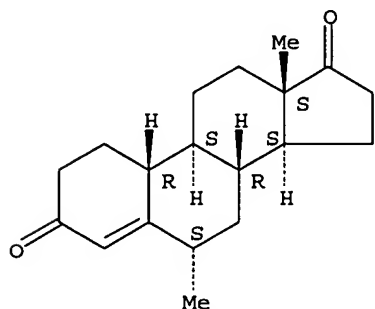


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 17 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 33585-96-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN Estr-4-ene-3,17-dione, 6-methyl-, (6 α)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Estr-4-ene-3,17-dione, 6 α -methyl- (6CI, 8CI)
OTHER NAMES:
CN NSC 29186
FS STEREOSEARCH
MF C19 H26 O2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, IFICDB, IFIPAT,
IFIUDB, USPAT2, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



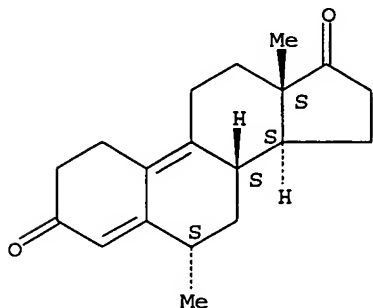
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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L3 ANSWER 18 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 30164-84-2 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Estra-4,9-diene-3,17-dione, 6-methyl-, (6 α)- (9CI) (CA INDEX NAME)
 FS STEREOSEARCH
 MF C19 H24 O2
 LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

Absolute stereochemistry.

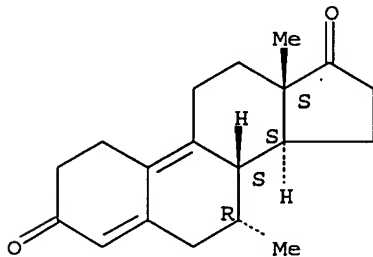


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 19 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 24130-12-9 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Estra-4,9-diene-3,17-dione, 7-methyl-, (7 α)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Estra-4,9-diene-3,17-dione, 7 α -methyl- (8CI)
 FS STEREOSEARCH
 MF C19 H24 O2
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, IFICDB, IFIPAT, IFIUDB,
 TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1907 TO DATE)
 5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 20 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 17000-78-1 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Estr-4-ene-3,17-dione, 7-methyl-, (7 α)- (9CI) (CA INDEX NAME)

Search done by Noble Jarrell

OTHER CA INDEX NAMES:

CN Estr-4-ene-3,17-dione, 7 α -methyl- (7CI, 8CI)

OTHER NAMES:

CN 7 α -Methylestr-4-ene-3,17-dione

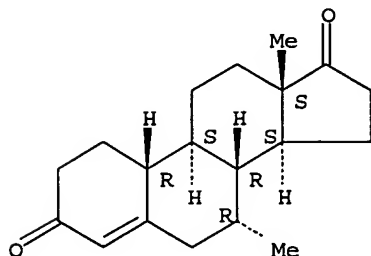
CN SR 16278

FS STEREOSEARCH

MF C19 H26 O2

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, IFICDB, IFIPAT,
 IFIUIDB, TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

15 REFERENCES IN FILE CA (1907 TO DATE)

15 REFERENCES IN FILE CAPLUS (1907 TO DATE)

2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 21 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN

RN 13209-45-5 REGISTRY

ED Entered STN: 16 Nov 1984

CN Estra-4,6-diene-3,17-dione (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN 19-Norandrosta-4,6-diene-3,17-dione

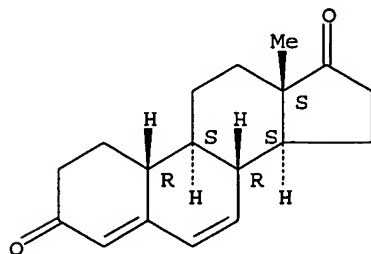
CN 4,6-Estradien-3,17-dione

FS STEREOSEARCH

MF C18 H22 O2

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CSCHEM, IFICDB,
 IFIPAT, IFIUIDB, MEDLINE, TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry.



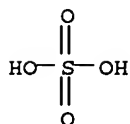
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33 REFERENCES IN FILE CA (1907 TO DATE)

33 REFERENCES IN FILE CAPLUS (1907 TO DATE)

3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 22 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 7664-93-9 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN BOV
 CN Brimstone acid
 CN Contact acid
 CN Dihydrogen sulfate
 CN Dipping acid
 CN NSC 248648
 CN NSC 38965
 CN Oil of vitriol
 CN Ridolene 123
 CN Sulphuric acid
 CN Vitriol brown oil
 FS 3D CONCORD
 DR 127529-01-5, 119540-51-1, 140623-70-7
 MF H2 O4 S
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO,
 CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
 CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM*,
 DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2,
 GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS,
 NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA,
 ULIDAT, USAN, USPAT2, USPATFULL, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

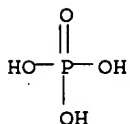


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

97729 REFERENCES IN FILE CA (1907 TO DATE)
 4991 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 97787 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 23 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 7664-38-2 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Phosphoric acid (7CI, 8CI, 9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN 3M Etching Liquid
 CN Amberphos 54
 CN C 134
 CN C 134 (acid)
 CN C 434
 CN C 434 (acid)
 CN Conditioner 36
 CN Decon 4512
 CN E 338
 CN Etchalite
 CN EVITs
 CN HQ 54
 CN K-etchant
 CN Kefo

CN Kerr Etchant
 CN Mikro Klene DF
 CN NSC 80804
 CN Orthophosphoric acid
 CN Panavia Etching Agent
 CN Sonac
 CN SPA 2
 CN SPA 2 (catalyst)
 CN TG 434
 CN Total Etch
 CN Ultra-Etch Gel
 CN Ultraetch
 CN Uni-Etch
 CN WC-Reiniger
 FS 3D CONCORD
 DR 28602-75-7, 178560-73-1
 MF H3 O4 P
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO,
 CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
 CHEMINFORMRX, CHEMLIST, CIN, CSCHM, CSNB, DDFU, DETHERM*, DIOGENES,
 DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2,
 GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS,
 NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER,
 TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

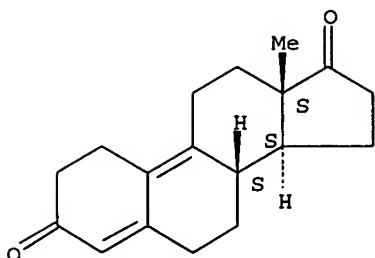


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 8918 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 62459 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 24 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 5173-46-6 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Estra-4,9-diene-3,17-dione (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN 19-Norandrosta-4,9-diene-3,17-dione
 FS STEREOSEARCH
 MF C18 H22 O2
 LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
 IFICDB, IFIPAT, IFIUDB, PS, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

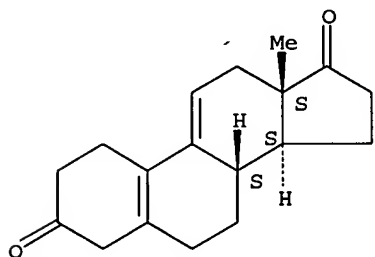
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72 REFERENCES IN FILE CAPLUS (1907 TO DATE)

12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 25 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 2503-06-2 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Estr-5(10),9(11)-diene-3,17-dione (7CI, 8CI, 9CI) (CA INDEX NAME)
 FS STEREOSEARCH
 MF C18 H22 O2
 LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, IFICDB, IFIPAT,
 IFIUDB, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry.



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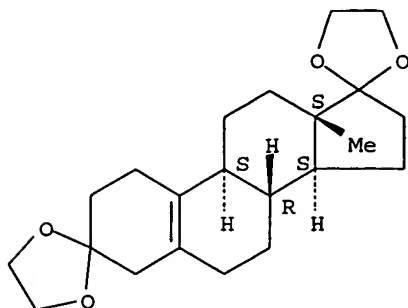
16 REFERENCES IN FILE CAPLUS (1907 TO DATE)

4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 26 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 2220-74-8 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Estr-5(10)-ene-3,17-dione, cyclic bis(1,2-ethanediyl acetal) (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Dispiro[1,3-dioxolane-2,3'-[3H]cyclopenta[a]phenanthrene-17'(2'H),2''-[1,3]dioxolane], estr-5(10)-ene-3,17-dione deriv.
 CN Estr-5(10)-ene-3,17-dione, cyclic bis(ethylene acetal) (7CI, 8CI)
 FS STEREOSEARCH
 MF C22 H32 O4
 LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Search done by Noble Jarrell

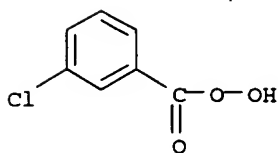
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)
 7 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 27 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 937-14-4 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Benzenecarboperoxoic acid, 3-chloro- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Peroxybenzoic acid, m-chloro- (7CI, 8CI)
 OTHER NAMES:
 CN 3-Chlorobenzenecarboperoxoic acid
 CN 3-Chloroperbenzoic acid
 CN 3-Chloroperoxybenzoic acid
 CN m-Chlorobenzoyl hydroperoxide
 CN m-Chloroperbenzoic acid
 CN m-Chloroperoxobenzoic acid
 CN m-Chloroperoxybenzoic acid
 CN m-Chloroperoxybenzoic acid
 CN MCPBA
 CN NSC 97094
 FS 3D CONCORD
 MF C7 H5 Cl O3
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
 BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
 CHEMINFORMRX, CHEMLIST, CIN, CSCHM, EMBASE, GMELIN*, HODOC*, IFICDB,
 IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NIOSHTIC, PS, RTECS*, SYNTHLINE,
 TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



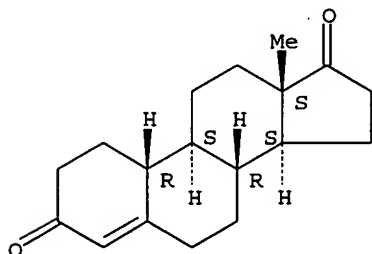
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

Search done by Noble Jarrell

2121 REFERENCES IN FILE CA (1907 TO DATE)
43 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2128 REFERENCES IN FILE CAPLUS (1907 TO DATE)
19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 28 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 734-32-7 REGISTRY
ED Entered STN: 16 Nov 1984
CN Estr-4-ene-3,17-dione (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN (+)-19-Norandrost-4-en-3,17-dione
CN (+)-19-Norandrost-4-ene-3,17-dione
CN (+)-Estr-4-ene-3,17-dione
CN Δ^4 -Estrene-3,17-dione
CN 19-Nor-4-androstenedione
CN 19-Norandrost-4-ene-3,17-dione
CN 3,17-Dioxo-19-norandrost-4-ene
CN d-19-Norandrost-4-ene-3,17-dione
CN NSC 12164
FS STEREOSEARCH
DR 15324-53-5, 30598-83-5
MF C18 H24 O2
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS,
CHEMINFORMRX, CHEMLIST, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA,
MEDLINE, PS, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



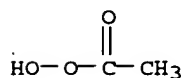
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

410 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
411 REFERENCES IN FILE CAPLUS (1907 TO DATE)
32 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 29 OF 29 REGISTRY COPYRIGHT 2005 ACS on STN
RN 79-21-0 REGISTRY
ED Entered STN: 16 Nov 1984
CN Ethaneperoxoic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Peroxyacetic acid (8CI)
OTHER NAMES:
CN Acetic peroxide
CN Acetyl hydroperoxide
CN Desoxon 1
CN Estosteril
CN Hydroperoxide, acetyl

Search done by Noble Jarrell

CN LCAP
 CN Monoperacetic acid
 CN Osbon AC
 CN Oxigreen 010
 CN Oxytel
 CN Ozonit
 CN Peracetic acid
 CN Perethanoic acid
 CN Peroxoacetic acid
 CN Proxitane 12A
 CN Proxitane 15
 CN Proxitane 1507
 CN Proxitane 4002
 CN Proxitane S
 CN Tsunami
 CN Tsunami 100
 FS 3D CONCORD
 DR 89370-71-8, 232259-02-8
 MF C2 H4 O3
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
 BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
 CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSChem, CSNB, DDFU, DETHERM*,
 DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2,
 GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*,
 MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SYNTHLINE,
 TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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 62 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 3985 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> b wpix

FILE 'WPIX' ENTERED AT 15:38:56 ON 24 JUN 2005
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FILE LAST UPDATED: 21 JUN 2005 <20050621/UP>
 MOST RECENT DERWENT UPDATE: 200539 <200539/DW>
 DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
<http://thomsonderwent.com/coverage/latestupdates/> <<<

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 GUIDES, PLEASE VISIT:
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DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
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>>> THE CPI AND EPI MANUAL CODES HAVE BEEN REVISED FROM UPDATE 200501.
PLEASE CHECK:
<http://thomsonderwent.com/support/dwpiref/reftools/classification/code-revision/>
FOR DETAILS. <<<

=> d all 14 tot

L4 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2003-278225 [27] WPIX

DNC C2003-072590

TI Preparation of steroid with 4,9(10)-diene-3-one, or its derivative,
comprising contacting 10-hydroxy-4-ene-3-ketosteroids and
5,10-dihydroxy-3-ketosteroids with concentrated or moderate sulfuric acid.

DC B01

IN HESSLER, E J; RHEENEN, V H V; VAN RHEENEN, V H

PA (HESS-I) HESSLER E J; (RHEE-I) RHEENEN V H V; (VRHE-I) VAN RHEENEN V H;
(BRID-N) BRIDGE ORGANICS CO

CYC 100

PI WO 2002101014 A2 20021219 (200327)* EN 12 C12N000-00

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ

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KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT

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US 2004087785 A1 20040506 (200430) C07J021-00 <--

AU 2002316205 A1 20021223 (200452) C12N000-00

US 6812358 B2 20041102 (200472) C07J001-00 <--

ADT WO 2002101014 A2 WO 2002-US18305 20020607; US 2003004333 A1

Provisional US 2001-296999P 20010608, US 2002-163727 20020606; US

2004087785 A1 Provisional US 2001-296999P 20010608, Div ex US

2002-163727 20020606, US 2003-695122 20031028; AU 2002316205 A1 AU

2002-316205 20020607; US 6812358 B2 Provisional US 2001-296999P

20010608, US 2002-163727 20020606

FDT AU 2002316205 A1 Based on WO 2002101014

PRAI US 2002-163727 20020606; US 2001-296999P

20010608; US 2003-695122 20031028

IC ICM C07J001-00; C07J021-00; C07J071-00; C12N000-00

ICS A61K031-56; A61K031-58; C07D223-14; C07J053-00

AB WO2002101014 A UPAB: 20030429

NOVELTY - Preparation (P1) of steroid (I) with 4,9(10)-diene-3-one, or its
derivative, comprises contacting 10-hydroxy-4-ene-3-ketosteroids and/or
5,10-dihydroxy-3-ketosteroids with concentrated or moderated sulfuric acid
(up to 5 volume%) (containing mixture of concentrated sulfuric acid (30
volume%) and water).

DETAILED DESCRIPTION - Preparation (P1) of steroid of formula (I)
with 4,9(10)-diene-3-one, or its derivative, comprising contacting
10-hydroxy-4-ene-3-ketosteroids of formula (II) and/or
5,10-dihydroxy-3-ketosteroids of formula (III) with concentrated or
moderated sulfuric acid (up to 5 volume%) (containing mixture of
concentrated sulfuric acid (30 volume%) and water).

R1 = CH3, H or COOCH3; and

R2 = CH3, F or H.

INDEPENDENT CLAIMS are also included for the following:

(1) compounds of formulae (V), (VI), (VII) and (VIII); and

(2) preparation (P2) of steroidal estro-4,9(10)-diene-3,17-diones of
formula (IA), comprising either:

(a) (i) contacting estro-5(10)-ene-3,17-bis-ketal of formula (IB)
with an epoxidizing agent, (ii) contacting the epoxide product with dilute

acid, and (iii) contacting the obtained product with concentrated or moderated sulfuric acid; or

(b) treating steroidal ester-5(10),9(11)-diene-3,17-diones of formula (IX) with concentrated mineral acid.

R3 = CH3, OH, F or H; and

X = C, C(CH3)2 or CH2.

USE - For the preparation of a steroid having 4,9(10)-diene-3-one, or its derivative (claimed), as intermediates in the preparation of biologically active substance.

Dwg.0/0

FS CPI

FA AB; GI; DCN

MC CPI: B01-C09; B01-D02

=> b home

FILE 'HOME' ENTERED AT 15:39:01 ON 24 JUN 2005

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